

## **IN THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

### **Listing of Claims:**

1(Currently Amended). A method for detecting a boundary between sequences comprising:

- (a) sampling a communications channel;
- (b) detecting a packet on the communications channel using the samples;
- (c) determining an initial boundary position between a first sequence and a second sequence;
- (d) determining a flag status;
- (e) determining a register value;
- (f) comparing the register value with a threshold; and
- (g) determining ~~[[the]]~~ a final boundary position between the first and second sequences based on the results of the comparison.

2(Original). The method of claim 1, wherein the method further comprises a step of (c.1) initializing a counter.

3(Original). The method of claim 2, wherein the method further comprises a step of (h) repeating steps (d)-(g) until the boundary is found.

4(Original). The method of claim 2, wherein the determining the initial boundary position step comprising:

- correlating a most recent sample with each sample from a plurality of previous samples;
- computing an average correlation from the correlation results;
- computing a threshold from an averaging of a sequence of previously calculated average correlations;
- comparing the average correlation with the threshold; and
- determining the initial boundary based on the results of the comparison.

5(Original). The method of claim 4, wherein the sequence of previously calculated average correlations is a sequence of 128 previously calculated average correlations.

6(Original). The method of claim 5, wherein the sequence of 128 previously calculated average correlations starts 10 average correlations from the most recently calculated average calculation.

7(Currently Amended). The method of claim 4, wherein the comparison of average correlation to the threshold compares the average correlation to 1/2 times the threshold.

8(Original). The method of claim 4, wherein the initial boundary is determined if the average correlation is less than 1/2 times the threshold.

9(Original). The method of claim 2, wherein the determining the flag status step comprising:

- correlating a most recent sample with each sample from a plurality of previous samples;
- computing an average correlation from an average of the individual correlation results;
- computing a threshold from an average of a set of average correlations;
- firstly comparing the average correlation with the threshold and a value in the counter with a first prespecified value;
- determining the status of a first flag based on the result of the first comparison;
- secondly comparing the average correlation with the threshold and the value in the counter with a second prespecified value;
- determining the status of a second flag based on the result of the second comparison;
- thirdly comparing the value in the counter with a third prespecified value; and
- determining the value in the counter based on the result of the third comparison.

10(Original). The method of claim 9, wherein the first comparison compares the average correlation to 1/2 times the threshold and the first prespecified value is 15.

11(Original). The method of claim 9, wherein the first flag is set to a high value if the first comparison is true.

12(Original). The method of claim 9, wherein the second comparison compares the average correlation to 1/4 times the threshold and the second prespecified value is 30.

13(Original). The method of claim 9, wherein the second flag is set to a high value if the second comparison is true.

14(Original). The method of claim 9, wherein the value in the counter is incremented if the value in the counter is less than the third prespecified value.

15(Original). The method of claim 9, wherein the third presepecified value is 64.

16(Original). The method of claim 2, wherein a most recent sample is correlated with each sample from a plurality of previous samples, an average of the individual correlation results (average correlation) and an average of average correlations (threshold) are computed, wherein the determining the register value step comprising:

firstly comparing the average correlation with the threshold, the counter with a first value, and a first flag value with a prespecified value;

secondly comparing the average correlation with the threshold, the counter with the first value, and a second flag value with the prespecified value;

thirdly comparing the average correlation with the threshold and the counter with the first value;

incrementing the register value if any of the first, second, and third comparisons are true; and

setting the register value to zero if all of the first, second, and third comparisons are false.

17(Original). The method of claim 16, wherein the first comparison compares the average correlation to the threshold, the counter with a 30 value, and the first flag value with a high value.

18(Original). The method of claim 16, wherein the second comparison compares the average correlation to 0.8 times the threshold, the counter with a 30 value, and the second flag value with a high value.

19(Original). The method of claim 16, wherein the third comparison compares the average correlation to 1.5 times the threshold and the counter with a 30 value.

20(Original). The method of claim 2, wherein the determining the boundary step comprising the step of declaring the boundary to be a specified number of samples ahead of the most recent sample if the register value is equal to a specified value.

21(Original). The method of claim 20, wherein the specified number is 64.

22(Original). The method of claim 20, wherein the specified value is 4.

23 – 28. Canceled.